Critical Minerals – A road worth travelling, but it might be a bumpy ride

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# ABSTRACT

The Australian Government has designated 31 minerals to be *critical minerals*, including platinum group elements and rare earth elements. Each critical mineral might have three or more global markets, considering the downstream value chain, so there are around 100 global markets to consider. What distinguishes a critical mineral from an ordinary mineral, is one or more significant market flaws. A common flaw is too much market concentration, for example the dominance of China as a buyer or seller. There are however other flaws, such as high barriers to entry, poor availability of market information, heterogenous products and the market impacts of co-production in many cases. In addition, new substitutes are emerging for many critical minerals, leading to the potential for disruptive falls in demand. These factors combined, add to the potential for volatile and unpredictable commodity prices, especially in the short and medium term. No wonder it can be challenging to finance critical minerals projects.

Major mining companies might have the financial strength to push through these challenges, but most critical minerals markets are currently too small to be of interest to them. This leaves the challenge of bringing on new supply to mid-tier and small cap companies. Clearly the challenges are enormous, but the potential rewards are also enormous. Although commodity prices are likely to be volatile and unpredictable in the short and medium term, for many critical minerals, the long-term trend for demand is strongly positive. This is because many critical minerals find application in the growing markets for net-zero technologies, and high-tech defence. The companies that can navigate the challenges can set themselves on a path to long-term growth. In this paper, I will examine these challenges in more detail, and suggest how companies can help themselves, and sometimes collaborate, to win.